Page 1,	above line 1,	please insert: --BACKGROUND OF THE INVENTION The Prior Art--; and
Page 1,	between lines 6 and 7,	please insert: --SUMMARY OF THE INVENTION--.
Page 15,	in line 11,	after "Use" please cancel "i-" and insert --is-- therefor.
Page 27,	in line 22,	after "ventilator" please cancel "amouts" and insert --amounts-- therefor.
Page 28,	in line 16,	please cancel "toghether" and insert --together-- therefor.
Page 31,	in line 1,	please cancel "seconf" and insert --second-- therefor; and
	between lines 11 and 12	please insert: -- BRIEF DESCRIPTION OF THE DRAWINGS --.
Page 32,	below line 6,	please insert:

C1

--DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

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Turning now in detail to the drawings, FIG. 1 shows a regenerative counterflow heat exchanger 10 for gaseous media, in particular an air heat exchanger for ventilating rooms in buildings, with a heat exchanger drum 12 receiving in an alternating sequence the flow of the heat-emitting and heat-absorbing gaseous medium. The drum 12 has an open

end 14 forming one face side 16. Drum 12 is rotatably supported in a bearing 18 and having an active surface consisting of a multilayered network 20. There are at least one ventilator 22 which produces a flow of feed air and one ventilator 24 which produces a flow of exhaust air. The heat exchanger drum 12 substantially forms a fixed outer limitation of the device and the bearing 18 is designed as a combination of a mechanical bearing and a magnetic bearing. The magnetic bearing is arranged on the face side 16 of the open end 14 of the heat exchanger drum 12 and the mechanical bearing 26 is designed with a central bearing 28 on which the heat exchanger drum 12 is fixed. This is fixed in a way such that in the mounted condition, its drum axle is substantially capable of executing only tilting movements within a cone, with the tip of the cone being disposed in the central bearing.

C2

The central bearing 28 is connected with a stator 30 in a fixed manner, as shown in FIG. 2. The stator 30 is designed with a stationary ring 32. The magnetic bearing 18 is formed only with permanent magnets 34. Provision is made for a partial magnetic system 34 connected with the

rotatable heat exchanger drum, the magnetizing device of the partial magnetic system being arranged parallel with the axle of the drum. Provision is made for a partial magnetic system 34, which system is stationary relative to the heat exchanger drum 12 and is connected with the stator 30. The stationary part of the magnetic system 34 has a diameter slightly smaller than the diameter of the partial magnetic system 36 connected with the rotatable heat exchanger drum, as shown in FIG. 2.

C2

The magnetic bearing 34 is formed with a main magnetic bearing 38 in the region of an upper half 40 of the stator 30, and with an oppositely acting and thus the bearing capacity—reducing second magnetic bearing 42 in the region of a lower half 44 of the stator 30. The second magnetic bearing 42 complementing the main magnetic bearing 38, as shown in FIG. 3. The magnetic bearing at the same time satisfies a sealing function.

The central bearing 28 is connected with a cross bar 46, and the cross bar is connected in a fixed way with two longitudinal bars 48 connected in a fixed way with the stator 30. The longitudinal

bars 48 are connected with the stator 30 in such a way that any inaccuracy in the angular position on an axis disposed perpendicular to the axis of the drum has no influence on the center point of the central bearing 28. The cross bar 46 and/or the longitudinal bars 48 are components at least partly produced cylindrical in shape. The heat exchanger drum 12 has a means 50 for adjusting its axial position, whereby said means 50 is designed in such a way that a loss-causing sealing gap is adjustable between the heat exchanger drum 12 and the stator 30 from the outside as shown in FIG. 5. The central bearing 28 is axially displaceable as shown in FIG. 5.

C2

Provision is made for a compensating device 52 for compensating the thermal change in the length of the longitudinal bars 48. The compensating device 52 is designed in such a way that a change in the outside temperature leads to an axial displacement of the central bearing relative to the cross bar 46. The heat exchanger drum has a closed face side 54 and it is axially fixable from this face side 54 by magnetic fixation means 56. The heat exchanger drum is designed in such a way that it can be pulled off

axially without obstruction. The heat exchanger drum can be put into rotation by means of a current of air provided with a twist from the feed air ventilator 22. The off–flow of an axial ventilator 24 is directly used as the current of air provided with a twist. The axial ventilator 22 blows out parallel with the axis of the drum and that the axial rotor 58 is arranged spaced from the axis of the drum. The ventilator is designed as a feed air ventilator 22. The ventilator 22 and 24 are at least partly arranged within an inner space of the drum of the heat exchanger.

C2

As shown in FIG. 1, a regenerative counterflow heat exchanger 10 for gaseous media, in particular an air heat exchanger for ventilating rooms in buildings, with a heat exchanger drum 12 receiving in an alternating sequence the flow of the heat–emitting and the heat–absorbing medium, the active surface of said heat exchanger drum 12 consisting of a multilayered network 20. At least one ventilator 22 produces a flow of feed air and at least one ventilator 24 produces a flow of exhaust air. The heat exchanger drum substantially forms a fixed outer limitation of the device.

Exclusively contactless gap seals 60 are usefully employed as sealing elements. An outer perforated sheet metal plate 62 is useful in thermal contact with the face-side rings in order to maintain said rings at room temperature. A relatively "cold" inner perforated sheet metal plate 64 is usefully maintained thermally insulated. After pulling off the drum, the face—side central bearing 28 usefully remains in the cross bar 46. A face—side closure of the drum usefully consists of a transparent material, preferably of glass 66. After releasing one single centrally arranged fixing device, the latter usefully remains unlosably on one of the components to be separated. Highly elastic intermediate elements 68 (FIG. 4 and FIG. 6) are usefully employed for compensating thermal expansions between the glass pane 66/central bearing receptacle or outer plate 62/inner perforated sheet metal plate 64 or pane installation ring/ventilator mounting or ventilator mounting/ventilator race configurations.

C2

Viewed in the direction of the axis of rotation, the longitudinal bars 48, which serve at the same time as sealing elements between the feed

air 22 and the exhaust air 24 chambers, usefully divide the chamber circumference or the chamber lengths acted upon in the circumferential direction as required. Thus each axial chamber section is basically complementarily acted upon by the same amounts of air. The longitudinal bar 48 is usefully mounted thermally insulated on the installation ring.

The infeed flow of the ventilators usefully takes place through a twist-absorbing element, for example through a honeycomb grid 70. After passing through the heat exchanger 12, the exhaust air usefully flows through one or a plurality of twist—absorbing elements 70. The ventilator rotors 58 including their bearings usefully form a magnetically fixed unit, which is axially removable without tools. The heat of the bearings and of the motors of the ventilators is usefully transferred via a bearing tube 72 to a counterweight 74 located in the flow of air as shown in FIG. 2. The bearing tube 72 is preferably already vibration-damped and supported in a housing. The vibration damper is preferably designed also as a sound absorber in the form of a silicone foam elastic disks 76 in order to

C2

reduce higher-frequency commutation noise.

The ventilator is usefully suspended in a race in a way such that the unit is suspended in the point of gravity and that vibrations are largely damped out in their site of origin. Thus the mounting can be designed very weak, which effects low development of noise and increased air capacity. The rotors 58 usefully run in their casings with very narrow clearance.

C2

Flow-shaping elements 78 are usefully fixed magnetically. A flow-shaping element is usefully arranged on the blow-out side on the room side, such element preventing fresh feed air from being directly received again in the upper exhaust zone. In the simplest case, this element may be a simple apron which, with the help of the air exiting from the last 10% of the heat exchanger, deflects the residual previous air by jet effect downwardly. The exhaust air on the room side is usefully exhausted from the top, and the fresh feed air is blown downwardly. The entire region within the diameter of the heat exchanger is usefully designed largely transparent. The ventilators 22 and 24 are usefully

arranged within the diameter of the heat exchanger. Both ventilators 22 and 24 are usefully arranged at the same temperature level, preferably at the level of the outside temperature.

The wall 80 separating the chambers is usefully removable from the bottom and is preferably fixed magnetically. The wall 80 separating the chambers is usefully designed as a sound absorber. The space disposed on the inside usefully contains a flat stationary sound absorber 76 located directly upstream of the closed face side of the drum. The ventilators 22 and 24 are usefully provided with a nozzle—like inlet, the latter being at least 1.2 times larger than the diameter of the rotor. Thus the ventilator races of the inlet nozzle and the diffuser are preferably decoupled with respect to physical sound via soft intermediate elements.

C2

With insulating glazings 68 and 82 in FIG. 4 and in FIG. 6, a controlled connection is usefully established between the intermediate space of the insulating glass pane 66 and the outside air. Thus the air flowing through the connection passes through a dust and moisture absorption filter 84.

The filter 84 is preferably arranged in such a way that the filter 84 is heated and moisture is expelled by possible sunlight irradiation, so that the filter regenerates itself automatically. The heat exchanger is usefully installed in a window. The recovery of moisture is usefully adjustable through selection of the concentration of a calcium chloride solution.

Provision is usefully made for a passive combined ventilation element containing a static element providing the flow of air with a twist before said air flows through the heat exchanger and drives the latter without having to make provision for a ventilator, whereby the axis of rotation preferably extends vertically. Regenerative heat exchanger having a rotating type of design, whereby the drive of the heat exchanger drum 12 is generated by a flow of air provided with a twist. Provision is usefully made for a passive, combined ventilation element containing a static element providing a flow of air with a twist before said air flows through the heat exchanger and drives the latter without having to make provision for a ventilator. The axis of rotation preferably extends vertically.